(FILE 'HOME' ENTERED AT 16:35:15 ON 29 JUL 2003)

FILE 'REGISTRY' ENTERED AT 16:35:58 ON 29 JUL 2003

FILE 'USPATFULL' ENTERED AT 16:36:03 ON 29 JUL 2003
L1 1 S (HYDROLYSED)(P)(CATION OR ANION)(P)CHROMATOG?(P)ENZYM?
L2 8 S HYDROLYSIS(P)(BOUND PROTEIN)(P)(CHROMATOG? OR ANION OR CATION

FILE 'CAPLUS' ENTERED AT 16:42:55 ON 29 JUL 2003
L3 1 S WO9525437/PN

FILE 'STNGUIDE' ENTERED AT 16:45:40 ON 29 JUL 2003

FILE 'USPATFULL' ENTERED AT 16:55:15 ON 29 JUL 2003
L4 80 S (PEPSIN OR CHYMOSIN OR TRYPSIN OR PLASMIN OR CHYMOTRYPSIN OR

FILE 'STNGUIDE' ENTERED AT 16:59:31 ON 29 JUL 2003
L5 0 S (PEPSIN OR CHYMOSIN OR TRYPSIN OR PLASMIN OR CHYMOTRYPSIN OR

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:02:22 ON 29 JUL 2003

SEA (PEPSIN OR CHYMOSIN OR TRYPSIN OR PLASMIN OR CHYMOTRYPSIN O

0*	FILE ADISNEWS
9	FILE AGRICOLA
6	FILE ANABSTR
3	FILE AQUASCI
13	FILE BIOBUSINESS
0*	FILE BIOCOMMERCE
92	FILE BIOSIS
13*	FILE BIOTECHABS
13*	FILE BIOTECHDS
45*	FILE BIOTECHNO
64	FILE CABA
8	FILE CANCERLIT
42	FILE CAPLUS
4*	FILE CEABA-VTB
0*	FILE CIN
7	FILE DGENE
4	FILE DRUGU
2	FILE EMBAL
48	FILE EMBASE
34*	FILE ESBIOBASE
4*	FILE FEDRIP
0*	FILE FOMAD
0*	FILE FOREGE
15*	FILE FROSTI
40*	FILE FSTA
9	FILE IFIPAT
13	FILE JICST-EPLUS
0*	FILE KOSMET
11	FILE LIFESCI
0*	FILE MEDICONF
62	FILE MEDLINE
1*	FILE NTIS
0*	FILE NUTRACEUT
1	FILE OCEAN
44*	FILE PASCAL

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            0*  FILE PHARMAML
           46   FILE SCISEARCH
            9   FILE TOXCENTER
           18   FILE USPATFULL
            6   FILE WPIDS
            6   FILE WPINDEX
L6           QUE (PEPSIN OR CHYMOSIN OR TRYPSIN OR PLASMIN OR CHYMOTRYPSIN O
             ---------

     FILE 'WPIDS, CAPLUS' ENTERED AT 17:04:55 ON 29 JUL 2003
L7          48 S L6
L8          48 DUP REM L7 (0 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 17:05:28 ON 29 JUL 2003

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:18:24 ON
     29 JUL 2003

     FILE 'STNGUIDE' ENTERED AT 17:18:38 ON 29 JUL 2003

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:21:51 ON
     29 JUL 2003

     FILE 'USPATFULL' ENTERED AT 17:21:58 ON 29 JUL 2003
L9          57 S (ADSORB? PROTEIN? OR ADSORB? PEPTIDE?)(P)(HYDROL? OR DIGEST?)

     FILE 'STNGUIDE' ENTERED AT 17:27:46 ON 29 JUL 2003

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:33:01 ON
     29 JUL 2003
              SEA (ADSORB? PROTEIN? OR ADSORB? PEPTIDE?)(P)(HYDROL? OR DIGEST
             ---------
             0*  FILE ADISNEWS
             1   FILE AGRICOLA
             1   FILE BIOBUSINESS
             0*  FILE BIOCOMMERCE
            10   FILE BIOSIS
             6*  FILE BIOTECHABS
             6*  FILE BIOTECHDS
             3*  FILE BIOTECHNO
            17   FILE CAPLUS
             2*  FILE CEABA-VTB
             0*  FILE CIN
             1   FILE EMBAL
             4   FILE EMBASE
             6*  FILE ESBIOBASE
             1*  FILE FEDRIP
             0*  FILE FOMAD
             0*  FILE FOREGE
             1*  FILE FROSTI
             2*  FILE FSTA
             3   FILE IFIPAT
             3   FILE JICST-EPLUS
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                0*  FILE KOSMET
                2   FILE LIFESCI
                0*  FILE MEDICONF
                8   FILE MEDLINE
                0*  FILE NTIS
                0*  FILE NUTRACEUT
               37*  FILE PASCAL
                0*  FILE PHARMAML
                3   FILE PROMT
                7   FILE SCISEARCH
               57   FILE USPATFULL
                3   FILE USPAT2
                3   FILE WPIDS
                3   FILE WPINDEX
L10              QUE (ADSORB? PROTEIN? OR ADSORB? PEPTIDE?)(P)(HYDROL? OR DIGEST
                 ---------

     FILE 'WPIDS, EMBASE, CAPLUS, SCISEARCH' ENTERED AT 17:35:30 ON 29 JUL 2003
L11           31 S L10
L12           22 DUP REM L11 (9 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 17:36:10 ON 29 JUL 2003

     FILE 'WPIDS, EMBASE, CAPLUS, SCISEARCH' ENTERED AT 17:44:24 ON 29 JUL 2003
L13         1061 S DIGEST?(P)COLUMN(P)(BOUND OR ADSORBED)
L14          544 S L13(P)(PROTEIN OR PEPTIDE)
L15          382 S L14(P)(PURIF? OR ISOLAT?)
L16          224 DUP REM L15 (158 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 17:46:46 ON 29 JUL 2003

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 18:03:00 ON
     29 JUL 2003
              SEA (IN SITU)(P)DIGESTION(P)CHROMATOGRAPH?
              ---------
              0*  FILE ADISNEWS
              3   FILE AGRICOLA
              6   FILE ANABSTR
              2   FILE AQUASCI
              0*  FILE BIOCOMMERCE
             75   FILE BIOSIS
              6*  FILE BIOTECHABS
              6*  FILE BIOTECHDS
             37*  FILE BIOTECHNO
              6   FILE CABA
             15   FILE CANCERLIT
             10   FILE CAPLUS
              0*  FILE CEABA-VTB
              0*  FILE CIN
              1   FILE CONFSCI
              1   FILE DRUGU
             47   FILE EMBASE
             24*  FILE ESBIOBASE
              9*  FILE FEDRIP
              0*  FILE FOMAD
              0*  FILE FOREGE
              2*  FILE FROSTI
              2*  FILE FSTA
              8   FILE IFIPAT
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                2   FILE JICST-EPLUS
                0*  FILE KOSMET
                4   FILE LIFESCI
                0*  FILE MEDICONF
               57   FILE MEDLINE
                0*  FILE NTIS
                0*  FILE NUTRACEUT
                6*  FILE PASCAL
                0*  FILE PHARMAML
               42   FILE SCISEARCH
                9   FILE TOXCENTER
               38   FILE USPATFULL
                3   FILE USPAT2
L17              QUE (IN SITU)(P) DIGESTION(P) CHROMATOGRAPH?
                 ---------

     FILE 'CAPLUS' ENTERED AT 18:05:35 ON 29 JUL 2003
                 E AGUILAR/IN,AU
                 E AGUILAR,M/IN,AU
                 E AGUILAR, M/IN,AU
                 E AGUILAR/IN,AU
                 E AGUILAR M/IN,AU
L18           223 S E13-E60
L19             7 S L18 AND DIGEST?

     FILE 'CAPLUS, SCISEARCH' ENTERED AT 18:14:13 ON 29 JUL 2003
L20            52 S (IN SITU)(P)DIGESTION(P)CHROMATOGRAPH?
L21            48 DUP REM L20 (4 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 18:14:34 ON 29 JUL 2003

     FILE 'CAPLUS, SCISEARCH' ENTERED AT 18:16:54 ON 29 JUL 2003

     FILE 'STNGUIDE' ENTERED AT 18:17:50 ON 29 JUL 2003

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 18:28:43 ON
     29 JUL 2003
                 SEA (DIGEST? OF ADSORB? OR HYDROLYS? OR ADSORB?)
                 ---------
               608   FILE ADISCTI
               183   FILE ADISINSIGHT
                72   FILE ADISNEWS
             15321   FILE AGRICOLA
             15196   FILE ANABSTR
              5352   FILE AQUASCI
             10545   FILE BIOBUSINESS
               330   FILE BIOCOMMERCE
            120796   FILE BIOSIS
             18798   FILE BIOTECHABS
             18798   FILE BIOTECHDS
                  SEA (DIGEST? OF ADSORB? PROTEIN OR HYDROLYS? OR ADSORB? PROTEIN
                 ---------
               440   FILE ADISCTI
               167   FILE ADISINSIGHT
                35   FILE ADISNEWS
             13252   FILE AGRICOLA
              7358   FILE ANABSTR
              3291   FILE AQUASCI
              7871   FILE BIOBUSINESS
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            241   FILE BIOCOMMERCE

     FILE 'CAPLUS' ENTERED AT 18:29:50 ON 29 JUL 2003
L22      392734 S (DIGEST? OF ADSORB? PROTEIN OR HYDROLYS? OR ADSORB? PROTEIN)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 18:30:04 ON
     29 JUL 2003
               SEA (DIGEST? OF ADSORB? PROTEIN OR HYDROLYS? OF ADSORB? PROTEIN
              ---------
              1   FILE CAPLUS
              1   FILE PASCAL
              1   FILE TOXCENTER
L23            QUE (DIGEST? OF ADSORB? PROTEIN OR HYDROLYS? OF ADSORB? PROTEIN
              ---------

     FILE 'CAPLUS, TOXCENTER' ENTERED AT 18:33:27 ON 29 JUL 2003
L24           2 S L23
L25           1 DUP REM L24 (1 DUPLICATE REMOVED)
L26         130 S (DIGEST? OF ADSORB? OR HYDROLYS? OF ADSORB?)
L27         119 DUP REM L26 (11 DUPLICATES REMOVED)
L28           7 S L27(P)(COLUMN OR CHROMATOG?)
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L21 ANSWER 23 OF 48 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
AN 1997:407647 CAPLUS
DN 127:132867
TI Development of capillary LC blotting systems for low and sub-picomole sequencing sample preparation
AU Hsi, Kuo-Liang; Kochersperger, Michael L.; Werner, William E.; Grimley, Chris H.; Zieske, Lynn R.; Yuan, Pau-Miau
CS PE Applied Biosystems, Foster City, CA, 94404, USA
SO Protein and Peptide Letters (1997), 4(1), 1-8
CODEN: PPELEN; ISSN: 0929-8665
PB Bentham Science Publishers BV
DT Journal
LA English
AB A capillary liq. chromatog./microblotting system, 173A MicroBlotter (PE Applied Biosystems, Foster City, CA), was developed recently. This newly designed system consists of a capillary liq. **chromatograph** for sample sepn. and an online microblotter for direct collection of the sepd. peptides onto a strip of PVDF membrane. Applications using this new device for low and sub-picomole sample prepn. and in conjunction with in-**situ digestion** techniques both in gels or on membrane are demonstrated in this report

L21 ANSWER 38 OF 48 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AN 94:42734 SCISEARCH
GA The Genuine Article (R) Number: MP721
TI KAPPA-MARKER TYPING WITH HIGH-PERFORMANCE LIQUID-CHROMATOGRAPHY - IDENTIFICATION OF KAPPA-MARKER SPECIFIC TRYPTIC PEPTIDE FROM THE KAPPA-LIGHT-CHAIN OF IMMUNOGLOBULIN-G
AU IIDA R; YASUDA T; NADANO D; TAKESHITA H; KISHI K (Reprint)
CS FUKUI MED SCH, DEPT LEGAL MED, MATSUOKA, FUKUI 91011, JAPAN (Reprint); FUKUI MED SCH, DEPT LEGAL MED, MATSUOKA, FUKUI 91011, JAPAN
CYA JAPAN
SO JOURNAL OF CHROMATOGRAPHY-BIOMEDICAL APPLICATIONS, (08 DEC 1993) Vol. 622, No. 1, pp. 9-12.
ISSN: 0378-4347.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 18
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Human serum immunoglobulin G was separated into its heavy and light chains by sodium dodecyl sulfate polyacrylamide gel electrophoresis and transferred electrophoretically to a polyvinylidenedifluoride membrane. Peptide fragments liberated from the light chain by in **situ digestion** with trypsin were then analyzed by reversed-phase high-performance liquid **chromatography** (HPLC). On comparing the HPLC patterns of these fragments derived from three major kappa marker (Km) types, two distinct peaks specific for the Km types were detected. Sequencing of the two specific peak peptides confirmed that they were identical to a stretch comprising residues 191-207 of the immunoglobulin kappa light chain, which contains valine/leucine allotypic variation at position 191.

ANSWER 37 OF 48 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN

AN 93:470039 SCISEARCH

GA The Genuine Article (R) Number: LP546

TI ELECTROSPRAY-IONIZATION MASS-SPECTROMETRY OF PHOSPHOPEPTIDES ISOLATED BY ONLINE IMMOBILIZED METAL-ION AFFINITY-CHROMATOGRAPHY

AU NUWAYSIR L M; STULTS J T (Reprint)

CS GENENTECH INC, DEPT PROT CHEM, 460 POINT SAN BRUNO BLVD, MAIL STOP 63, S SAN FRANCISCO, CA, 94080

CYA USA

SO JOURNAL OF THE AMERICAN SOCIETY FOR MASS SPECTROMETRY, (AUG 1993) Vol. 4, No. 8, pp. 662-669.
ISSN: 1044-0305.

DT Article; Journal

FS PHYS

LA ENGLISH

REC Reference Count: 38

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Electrospray ionization mass spectrometry (ESI/MS) affords a rapid and sensitive technique for determining peptides produced by the enzymatic **digestion** of phosphoproteins. When coupled with on-line immobilized metal-ion affinity **chromatography** (IMAC), the combination allows separation and mass spectrometric identification of phosphorylated and nonphosphorylated peptides. In this study, the feasibility and general applicability of on-line IMAC/ESI/MS is investigated by using immobilized ferric ions for selective chelation of several phosphotyrosine and phosphoserine peptides. The sensitivity and practicality of the technique for phosphoproteins are demonstrated via the analysis of 30 pmol (approximately 0.7 mug) of bovine beta-casein purified by sodium dodecylsulfate-polyacrylamide gel electrophoresis, electroblotted onto a polyvinylidene difluoride membrane, and digested in **situ** with trypsin. It is observed that on-line IMAC/ESI/MS suffers less from sample losses than experiments performed off-line, suggesting that the limiting factors in sensitivity for this technique are the purification procedures and sample handling rather than the IMAC and mass spectrometry. Thus, the ability to inject the tryptic digest of an electroblotted protein directly onto the column without buffer exchange and to analyze the eluent directly via on-line coupling of the IMAC column to the mass spectrometer greatly reduces sample losses incurred through sample handling and provides a convenient method for analyzing phosphopeptides at low levels.

L21 ANSWER 16 OF 48 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
AN 1998:386795 CAPLUS
DN 129:51119
TI Capillary column **chromatography** improves sample preparation for mass spectrometric analysis. Complete characterization of human .alpha.-enolase from tow-dimensional gels following in **situ** proteolytic **digestion**
AU Reid, Gavin E.; Rasmussen, Richele K.; Dorow, Donna S.; Simpson, Richard J.
CS Joint Protein Structure Lab., Ludwig Inst. Cancer Research, Royal Melbourne Hospital, Parkville, 3050, Australia
SO Electrophoresis (1998), 19(6), 946-955
CODEN: ELCTDN; ISSN: 0173-0835
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
TI Capillary column **chromatography** improves sample preparation for mass spectrometric analysis. Complete characterization of human .alpha.-enolase from tow-dimensional gels following in **situ** proteolytic **digestion**

SWER 16 OF 33 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:221301 CAPLUS
DN 104:221301
TI Selective radiolabeling and isolation of the hydrophobic membrane-binding domain of human erythrocyte acetylcholinesterase
AU Roberts, William L.; Rosenberry, Terrone L.
CS Sch. Med., Case West. Reserve Univ., Cleveland, OH, 44106, USA
SO Biochemistry (1986), 25(11), 3091-8
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
AB The hydrophobic, membrane-binding domain of purified human erythrocyte acetylcholinesterase was labeled with the photoactivated reagent, 3-(trifluoromethyl)-3-(m-[125I]iodophenyl)diazirine. The radiolabeled was incorporated when the enzyme was prepd. in detergent-free aggregates, in detergent micelles, or in phospholipid liposomes, but the highest percentage of labeling occurred in the detergent-free aggregates. Papain **digestion** of the enzyme cleaved the hydrophobic domain, SDS-PAGE or **gel** exclusion chromatog. demonstrated that the label was localized exclusively in the cleaved hydrophobic domain **fragment**. This **fragment** was purified in a 3-step procedure. **Digestion** was conducted with papain attached to Sepharose CL-4B, and the supernatant was **adsorbed** to acridinium affinity resin to remove the hydrophilic enzyme **fragment**. The nonretained **fragment** assocd. with Triton X-100 micelles was then chromatographed on Sepharose CL-6B, and finally detergent was removed by chromatog. on Sephadex LH-60 in an EtOH-HCO2H solvent. The **fragment** exhibited an apparent mol. wt. of 3100 on the Sephadex LH-60 column when compared with peptide stds. However, amino acid anal. of the purified **fragment** revealed only 1 mol each of histidine and glycine per mol of **fragment** in contrast to the 25-30 mol of amino acids expected on the basis of the mol. wt. est. This result suggested a novel nonamino acid structure for the hydrophobic domain of human erythrocyte acetylcholinesterase.

L4 ANSWER 17 OF 33 CAPLUS COPYRIGHT 2003 A

L21 ANSWER 26 OF 48 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AN 97:96306 SCISEARCH
GA The Genuine Article (R) Number: WD705
TI Post-transcriptional regulation of protein synthesis during alfalfa embryogenesis: Proteins associated with the cytoplasmic polysomal and non-polysomal mRNAs (messenger ribonucleoprotein complex)
AU Pramanik S K (Reprint); Bewley J D
CS UNIV GUELPH, DEPT BOT, GUELPH, ON N1G 2W1, CANADA (Reprint)
CYA CANADA
SO JOURNAL OF EXPERIMENTAL BOTANY, (DEC 1996) Vol. 47, No. 305, pp. 1871-1879.
Publisher: OXFORD UNIV PRESS UNITED KINGDOM, WALTON ST JOURNALS DEPT, OXFORD, ENGLAND OX2 6DP.
ISSN: 0022-0957.
DT Article; Journal
FS LIFE; AGRI
LA English
REC Reference Count: 34
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Cytoplasmic polysomal and non-polysomal mRNA-associated protein complexes were isolated from, and characterized in, developing somatic and zygotic embryos of alfalfa (Medicago sativa L.). S-35-methionine-labelled intact embryos were irradiated with ultraviolet light (UV) in **situ** to cross-link mRNA and proteins occurring within one bond length, and the polysomal and non-polysomal fractions were extracted. Then the mRNA-protein complexes were isolated from the fractions and separated using two cycles of affinity **chromatography** on an oligo(dT)-cellulose column. Following **digestion** with RNase A and T1 and micrococcal nuclease, mRNA-associated proteins were separated by sos-PAGE.

Several polypeptides of 15-150 kDa were associated with the polysomal and non-polysomal (ribonucleoprotein, mRNP) fractions of alfalfa embryos after UV-cross-linking. Many of the polypeptides associated with the polysomal and non-polysomal mRNAs were qualitatively similar, although their concentration in the two fractions was different. However, some developmentally stage-specific polypeptides were found to be associated with the non-polysomal mRNA fraction during the early stages of embryogenesis (pre-cotyledonary) of somatic embryos. Thus the presence of mRNPs during embryogenesis has been demonstrated, and proteins intimately associated with the mRNAs identified.

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=> d his

     (FILE 'HOME' ENTERED AT 16:35:15 ON 29 JUL 2003)

     FILE 'REGISTRY' ENTERED AT 16:35:58 ON 29 JUL 2003

     FILE 'USPATFULL' ENTERED AT 16:36:03 ON 29 JUL 2003
L1             1 S (HYDROLYSED)(P)(CATION OR ANION)(P)CHROMATOG?(P)ENZYM?
L2             8 S HYDROLYSIS(P)(BOUND PROTEIN)(P)(CHROMATOG? OR ANION OR CATION

     FILE 'CAPLUS' ENTERED AT 16:42:55 ON 29 JUL 2003
L3             1 S WO9525437/PN

     FILE 'STNGUIDE' ENTERED AT 16:45:40 ON 29 JUL 2003

     FILE 'USPATFULL' ENTERED AT 16:55:15 ON 29 JUL 2003
L4            80 S (PEPSIN OR CHYMOSIN OR TRYPSIN OR PLASMIN OR CHYMOTRYPSIN OR

     FILE 'STNGUIDE' ENTERED AT 16:59:31 ON 29 JUL 2003
L5             0 S (PEPSIN OR CHYMOSIN OR TRYPSIN OR PLASMIN OR CHYMOTRYPSIN OR

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:02:22 ON
     29 JUL 2003
               SEA (PEPSIN OR CHYMOSIN OR TRYPSIN OR PLASMIN OR CHYMOTRYPSIN O
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               0*  FILE ADISNEWS
               9   FILE AGRICOLA
               6   FILE ANABSTR
               3   FILE AQUASCI
              13   FILE BIOBUSINESS
               0*  FILE BIOCOMMERCE
              92   FILE BIOSIS
              13*  FILE BIOTECHABS
              13*  FILE BIOTECHDS
              45*  FILE BIOTECHNO
              64   FILE CABA
               8   FILE CANCERLIT
              42   FILE CAPLUS
               4*  FILE CEABA-VTB
               0*  FILE CIN
               7   FILE DGENE
               4   FILE DRUGU
               2   FILE EMBAL
              48   FILE EMBASE
              34*  FILE ESBIOBASE
               4*  FILE FEDRIP
               0*  FILE FOMAD
               0*  FILE FOREGE
              15*  FILE FROSTI
              40*  FILE FSTA
               9   FILE IFIPAT
              13   FILE JICST-EPLUS
               0*  FILE KOSMET
              11   FILE LIFESCI
               0*  FILE MEDICONF
              62   FILE MEDLINE
               1*  FILE NTIS
               0*  FILE NUTRACEUT
               1   FILE OCEAN
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              44*  FILE PASCAL
               0*  FILE PHARMAML
              46   FILE SCISEARCH
               9   FILE TOXCENTER
              18   FILE USPATFULL
               6   FILE WPIDS
               6   FILE WPINDEX
L6             QUE (PEPSIN OR CHYMOSIN OR TRYPSIN OR PLASMIN OR CHYMOTRYPSIN O
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     FILE 'WPIDS, CAPLUS' ENTERED AT 17:04:55 ON 29 JUL 2003
L7          48 S L6
L8          48 DUP REM L7 (0 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 17:05:28 ON 29 JUL 2003

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:18:24 ON
     29 JUL 2003

     FILE 'STNGUIDE' ENTERED AT 17:18:38 ON 29 JUL 2003

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:21:51 ON
     29 JUL 2003

     FILE 'USPATFULL' ENTERED AT 17:21:58 ON 29 JUL 2003
L9          57 S (ADSORB? PROTEIN? OR ADSORB? PEPTIDE?)(P)(HYDROL? OR DIGEST?)

     FILE 'STNGUIDE' ENTERED AT 17:27:46 ON 29 JUL 2003

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:33:01 ON
     29 JUL 2003
               SEA (ADSORB? PROTEIN? OR ADSORB? PEPTIDE?)(P)(HYDROL? OR DIGEST
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               0*  FILE ADISNEWS
               1   FILE AGRICOLA
               1   FILE BIOBUSINESS
               0*  FILE BIOCOMMERCE
              10   FILE BIOSIS
               6*  FILE BIOTECHABS
               6*  FILE BIOTECHDS
               3*  FILE BIOTECHNO
              17   FILE CAPLUS
               2*  FILE CEABA-VTB
               0*  FILE CIN
               1   FILE EMBAL
               4   FILE EMBASE
               6*  FILE ESBIOBASE
               1*  FILE FEDRIP
               0*  FILE FOMAD
               0*  FILE FOREGE
               1*  FILE FROSTI
               2*  FILE FSTA
               3   FILE IFIPAT
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                3   FILE JICST-EPLUS
                0*  FILE KOSMET
                2   FILE LIFESCI
                0*  FILE MEDICONF
                8   FILE MEDLINE
                0*  FILE NTIS
                0*  FILE NUTRACEUT
               37*  FILE PASCAL
                0*  FILE PHARMAML
                3   FILE PROMT
                7   FILE SCISEARCH
               57   FILE USPATFULL
                3   FILE USPAT2
                3   FILE WPIDS
                3   FILE WPINDEX
L10              QUE (ADSORB? PROTEIN? OR ADSORB? PEPTIDE?)(P)(HYDROL? OR DIGEST
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     FILE 'WPIDS, EMBASE, CAPLUS, SCISEARCH' ENTERED AT 17:35:30 ON 29 JUL 2003
L11           31 S L10
L12           22 DUP REM L11 (9 DUPLICATES REMOVED)
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L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1974:36036 CAPLUS
DN 80:36036
TI Edible protein hydrolyzate
IN **Funaki, Ikuo**; Azuma, Hideo
SO Jpn. Tokkyo Koho, 3 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
IC A23L; A23J
CC 17-3 (Foods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 48010543	B4	19730404	JP 1970-1314	19691226
PRAI	JP 1970-1314		19691226		

AB Edible protein is obtained by hydrolyzing animal protein with proteolytic enzyme in the presence of .gtoreq.1 adsorbent such as acid clay, active C, and bentonite, and (or) a strongly acidic cation-exchange resin. The optimum concn. of the adsorbent was 1-10 wt. %. For example, 110 g of 89% protein powder was obtained by hydrolyzing 1 kg of chopped mackerel meat with 1 g of **pronase** in the presence of 40 g acid clay. The product had no bitter taste.
ST protein hydrolysis enzyme adsorbent
IT Proteins
RL: BIOL (Biological study)
(hydrolyzate, acid clay adsorbent for edible)
IT Mackerel
(protein hydrolyzate from, acid clay adsorbent for edible)
IT 9036-06-0
RL: BIOL (Biological study)
(fish protein hydrolysis with, acid clay adsorbent for)

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all

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1992:126988 CAPLUS
DN 116:126988
TI Casein peptide from pepsin hydrolyzates
IN Kizawa, Kenji; Naganuma, Keiko; Murakami, Umeji; Takemoto, Taira
PA Kanebo, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07K007-10
ICA A61K037-02; C12P021-06
ICI C07K099-00
CC 16-2 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 1

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03255095	A2	19911113	JP 1990-52554	19900302 <--
PRAI	JP 1990-52554		19900302		

AB H-Val-Tyr-Gln-His-Gln-Lys-Ala-Met-Lys-Pro-Trp-Ile-Gln-Pro-Lys-Thr-Lys-Val-Ile-Pro-Tyr-Val-Arg-Tyr-R (I; R = OH, Leu-OH) or their salts are isolated from pepsin hydrolyzates of .alpha.-casein. I inhibits blood platelet aggregation and are useful for treatment and prevention of thrombosis. .alpha.-Casein (10 g) in aq. HCl was treated with pepsin at 37.degree. for 1 h and applied to column chromatog. to give 27.1 mg I (R = OH) trifluoroacetate salt and 69 mg I (R = Leu-OH) trifluoroacetate salt. I (R = OH) trifluoroacetate salt inhibited ADP-induced aggregation of platelet-rich plasma with IC50 of 1169 .mu.M.

ST peptide manuf platelet aggregation inhibitor; antithrombotic casein peptide manuf; casein hydrolysis pepsin

IT Anticoagulants and Antithrombotics
Blood platelet aggregation inhibitors
(casein peptide as)

IT Caseins, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(.alpha.-, peptide manuf. from, with pepsin)

IT 139594-03-9P 139594-04-0P 139594-05-1P 139594-06-2P
RL: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(manuf. of, from casein, with pepsin, as blood platelet aggregation inhibitor)

IT 9001-75-6, Pepsin
RL: BIOL (Biological study)
(peptide manuf. with, from casein)

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L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
AN **1996:675428** CAPLUS
DN 126:28401
TI Interactions of amphiphilic peptides derived from .alpha.s2-casein with calmodulin
AU Kizawa, Kenji; Naganuma, Keiko; Murakami, Umeji
CS Biochemistry Lab., Kanebo Ltd., Odawara, 250, Japan
SO Journal of Dairy Science (1996), 79(10), 1728-1733
CODEN: JDSCAE; ISSN: 0022-0302
PB American Dairy Science Association
DT Journal
LA English
CC 7-3 (Enzymes)
Section cross-reference(s): 6
AB Calmodulin-binding peptides, which had previously been isolated from a pepsin digest of .alpha.-CN, were synthesized and then examd. for their inhibitory effects on the activation of cyclic nucleotide phosphodiesterase that was induced by calmodulin. The concns. of the synthetic peptides corresponding to 164-179, LKKISQRYQKFALPQY; 183-206, VYQHQKAMKPWIQPKTKVIPYVRY; and 183-207, VYQHQKAMKPWIQPKTKVIPYVRYL, of .alpha.s2-CN that gave half-maximal inhibition were 65, 7.0, and 2.6 .mu.M, resp. These inhibitory effects were reversed by increasing the amt. of calmodulin. Fragments and analogs were prepd. to study the interactions of the peptides with calmodulin in more detail. The results indicated that modification of the carboxyl terminus enhanced the affinities of the three peptides for calmodulin, and a region involved in the inhibition by .alpha.ss-CN (f183-207) was located at the carboxyl terminus 191-207. Two predicted calmodulin-binding sequences, 164-179 and 191-207 of .alpha.ss-CN, despite rather divergent primary structures, shared the structural motif common to the calmodulin-binding domains of the target proteins in the previously proposed complex model.
ST casein peptide calmodulin phosphodiesterase
IT Calmodulins
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interactions of amphiphilic peptides derived from .alpha.s2-casein with calmodulin)
IT Caseins, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(.alpha.s2-; interactions of amphiphilic peptides derived from .alpha.s2-casein with calmodulin)
IT 9040-59-9, Cyclic nucleotide phosphodiesterase
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interactions of amphiphilic peptides derived from .alpha.s2-casein with calmodulin)

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L3 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1995:957680 CAPLUS
DN 124:3426
TI Calmodulin-binding peptides isolated from .alpha.-casein peptone
AU **Kizawa, Kenji**; Naganuma, Keiko; Murakami, Umeji
CS Biochem. Lab., Kanebo Ltd., Odawara, 250, Japan
SO Journal of Dairy Research (1995), 62(4), 587-92
CODEN: JDRSAN; ISSN: 0022-0299
PB Cambridge University Press
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 7
AB Peptides that inhibit calmodulin-dependent cyclic nucleotide phosphodiesterase were isolated from a **pepsin** digest of .alpha.-casein. Anal. of these peptides showed that they corresponded to the .alpha.s2-casein sequences 164-179 (Leu-Lys-Lys Ile-Ser-Gln-Arg-Tyr-Gln-Lys-Phe-Ala-Leu-Pro-Gln-Tyr), 183-206 (Val-Tyr-Gln-His-Gln-Lys-Ala-Met-Lys-Pro-Trp-Ile-Gln-Pro-Lys-Thr-Lys-Val-Ile-Pro-Tyr-Val-Arg-Tyr) and 183-207 (C-terminus, Val-Tyr-Gln-His-Gln-Lys-Ala-Met-Lys-Pro-Trp-Ile-Gln-Pro-Lys-Thr-Lys-Val-Ile-Pro-Tyr-Val-Arg-Tyr-Leu). These peptides inhibited calmodulin-induced cyclic nucleotide phosphodiesterase activity over the range 1-50 .mu.M without affecting the basal enzyme activity. These results demonstrated that the affinities of these peptides for calmodulin are comparable to the affinities of certain endogenous neurohormones and proteins that interact with calmodulin.
ST calmodulin binding peptide casein peptone
IT Molecular association
(calmodulin-binding/cyclic nucleotide phosphodiesterase-inhibiting peptides isolated from .alpha.-casein peptone)
IT Calmodulins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(calmodulin-binding/cyclic nucleotide phosphodiesterase-inhibiting peptides isolated from .alpha.-casein peptone)
IT Caseins, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(.alpha.-, calmodulin-binding/cyclic nucleotide phosphodiesterase-inhibiting peptides isolated from .alpha.-casein peptone)
IT 139594-03-9 139594-04-0 171262-07-0
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(calmodulin-binding/cyclic nucleotide phosphodiesterase-inhibiting peptides isolated from .alpha.-casein peptone)
IT 9040-59-9, Cyclic nucleotide phosphodiesterase
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(calmodulin-binding/cyclic nucleotide phosphodiesterase-inhibiting peptides isolated from .alpha.-casein peptone)

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L3 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1996:675428 CAPLUS
DN 126:28401
TI Interactions of amphiphilic peptides derived from .alpha.s2-casein with calmodulin
AU **Kizawa, Kenji**; Naganuma, Keiko; Murakami, Umeji
CS Biochemistry Lab., Kanebo Ltd., Odawara, 250, Japan
SO Journal of Dairy Science (1996), 79(10), 1728-1733
CODEN: JDSCAE; ISSN: 0022-0302
PB American Dairy Science Association
DT Journal
LA English
CC 7-3 (Enzymes)
Section cross-reference(s): 6
AB Calmodulin-binding peptides, which had previously been isolated from a **pepsin** digest of .alpha.-CN, were synthesized and then examd. for their inhibitory effects on the activation of cyclic nucleotide phosphodiesterase that was induced by calmodulin. The concns. of the synthetic peptides corresponding to 164-179, LKKISQRYQKFALPQY; 183-206, VYQHQKAMKPWIQPKTKVIPYVRY; and 183-207, VYQHQKAMKPWIQPKTKVIPYVRYL, of .alpha.s2-CN that gave half-maximal inhibition were 65, 7.0, and 2.6 .mu.M, resp. These inhibitory effects were reversed by increasing the amt. of calmodulin. Fragments and analogs were prepd. to study the interactions of the peptides with calmodulin in more detail. The results indicated that modification of the carboxyl terminus enhanced the affinities of the three peptides for calmodulin, and a region involved in the inhibition by .alpha.ss-CN (f183-207) was located at the carboxyl terminus 191-207. Two predicted calmodulin-binding sequences, 164-179 and 191-207 of .alpha.ss-CN, despite rather divergent primary structures, shared the structural motif common to the calmodulin-binding domains of the target proteins in the previously proposed complex model.
ST casein peptide calmodulin phosphodiesterase
IT Calmodulins
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interactions of amphiphilic peptides derived from .alpha.s2-casein with calmodulin)
IT Caseins, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(.alpha.s2-; interactions of amphiphilic peptides derived from .alpha.s2-casein with calmodulin)
IT 9040-59-9, Cyclic nucleotide phosphodiesterase
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interactions of amphiphilic peptides derived from .alpha.s2-casein with calmodulin)

2 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:692792 CAPLUS
DN 121:292792
TI sedative peptides and food containing the peptides
IN Kizawa, Kenji; Sugai, Ryuji; Murakami, Umeji
PA Kanebo Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06211689	A2	19940802	JP 1993-24811	19930119
PRAI JP 1993-24811		19930119		

IT **139594-03-9 139594-04-0** 139594-07-3
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sedative peptides and food contg. the peptides)

L2 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1992:126988 CAPLUS
DN 116:126988
TI Casein peptide from pepsin hydrolyzates
IN Kizawa, Kenji; Naganuma, Keiko; Murakami, Umeji; Takemoto, Taira
PA Kanebo, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 03255095	A2	19911113	JP 1990-52554	19900302
PRAI JP 1990-52554		19900302		

IT **139594-03-9P 139594-04-0P 139594-05-1P**
139594-06-2P
RL: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(manuf. of, from casein, with pepsin, as blood platelet aggregation inhibitor)

L2 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1977:417534 CAPLUS
DN 87:17534
TI Complete amino acid sequence of bovine .alpha.S2-casein
AU Brignon, Ghislaine; Ribadeau Dumas, Bruno; Mercier, Jean Claude; Pelissier, Jean Pierre; Das, B. C.
CS Lab. Rech. Proteines, Inst. Natl. Rech. Agron., Jouy-en-Josas, Fr.
SO FEBS Letters (1977), 76(2), 274-9
CODEN: FEBLAL; ISSN: 0014-5793
DT Journal
LA English
IT **63194-38-7**
RL: PRP (Properties)
(amino acid sequence of)

L19 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1988:469736 CAPLUS
DN 109:69736
TI Single-step purification of two hyperglycemic neurohormones from the sinus gland of Procambarus bouvieri. Comparative peptide mapping by means of high-performance liquid chromatography
AU Huberman, Alberto; **Aguilar, Manuel B.**
CS Dep. Biochem., Inst. Nac. Nutr. "Salvador Zubiran", Mexico City, 14000, Mex.
SO Journal of Chromatography (1988), 443, 337-42
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
AU Huberman, Alberto; **Aguilar, Manuel B.**
AB A crude aq. ext. from 2000 sinus glands of the Mexican crayfish P. bouvieri (Ortmann) was fractionated on a .mu.Bondapak-Ph column. Two isoforms of the crustacean hyperglycemic hormone, designated CHH-B and CHH-C in order of elution, were isolated in pure form. Their biochem. characterization showed a remarkable degree of homol. A tryptic **digest** of each isohormone was fractionated on an Ultrasphere-ODS column. Only 1 tryptic peptide in CHH-C was eluted later than its homologous peptide in CHH-B. Upon acid hydrolysis, both tryptic peptides had the same compn. but, as they contain aspartic and glutamic acids, the difference probably resides in a double reciprocal amidation-deamidation of 2 acidic residues.

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L12 ANSWER 3 OF 22 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN DUPLICATE 2

AN 2003142780 EMBASE

TI Microcolumn capture and digestion of proteins combined with mass spectrometry for protein identification.

AU Craft D.; Doucette A.; Li L.

CS L. Li, Department of Chemistry, University of Alberta, Edmonton, Alta. T6G 2G2, Canada. Liang.Li@ualberta.ca

SO Journal of Proteome Research, (2002) 1/6 (537-547).
Refs: 32
ISSN: 1535-3893 CODEN: JPROBS

CY United States

DT Journal; Article

FS 029 Clinical Biochemistry

LA English

SL English

AB A procedure has been developed for protein identification using mass spectrometry (MS) that incorporates sample cleanup, preconcentration, and protein **digestion** in a single-stage system. The procedure involves the adsorption of a protein, or protein mixture, from solution onto a hydrophobic resin that is contained within a microcolumn. Sample loading is accomplished by flowing the protein solution through the microcolumn, where the protein adsorbs to the hydrophobic surface. The protein is **digested** while still bound to the hydrophobic surface by flowing a buffered **trypsin** solution through the column bed. The peptide fragments are subsequently eluted for detection by MALDI or ESI-MS. The procedure is demonstrated using dilute protein samples containing high concentrations of salt, urea, and modest amount of sodium dodecyl sulfate relative to protein. Peptide fragments are also detected by MS from a 500 nM bacteriorhodopsin solution **digested** in a microcolumn. In this case, a combined cyanogen bromide/**trypsin** **digestion** was performed in-column. The procedure is applied to the MALDI-MS/MS identification of proteins present in an individual fraction collected by ion exchange HPLC separation of E. coli total cell extract. An additional application is illustrated in the analysis of a human plasma fraction. A total of 14 proteins, which were present in the sample at sub-micromolar concentrations, were identified from ESI-MS/MS. The microcolumn **digestion** procedure represents the next step toward a system for fully automated protein analysis through capture and **digestion** of the **adsorbed protein** on hydrophobic surfaces.